(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 7 July 2005 (07.07.2005)

PCT

(10) International Publication Number WO 2005/061471 A1

(51) International Patent Classification7:

C07D 277/72

(21) International Application Number:

PCT/SK2004/000018

(22) International Filing Date:

23 December 2004 (23.12.2004)

(25) Filing Language:

Slovak

(26) Publication Language:

English

(30) Priority Data:

PP 1616-2003

23 December 2003 (23.12.2003) SK

(71) Applicant (for all designated States except US): DUSLO A.S. [SK/SK]; 927 03 Sala (SK).

(72) Inventors; and

(75) Inventors/Applicants (for US only): KRIZANOVIC, Karol [SK/SK]; Kozmonautov 5, 900 21 Sväty Jur (SK). MUNTÁGOVÁ, Lubica [SK/SK]; Tupolevova 18, 251 01 Bratislava (SK).

(74) Agent: BACHRATÁ, Magdaléna; Lietavská 9, 851 05 Bratislava (SK). (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD OF OBTAINING 2-MERCAPTOBENZOTHIAZOLE

(57) Abstract: 2-Mercaptobenzothiazole is obtained from a me¹t of the raw product prepared by the reaction of aniline, carbon disulphide and sulphur by pressure synthesis in a reactor, where the melt contains 2-mercaptobenzothiazole, unreacted raw materials, intermediate products and pitches, so that after reaching a stationary state of the reaction medium it includes the following steps: a) crystallization of the 2-mercaptobenzothiazole raw product from an aniline solution, b) dividing the liquid phase (F_K) from crystallization from step a) in three parts, c) removing one part of the liquid phase (F_{K1}) from crystallization from step a) out of the process, d) returning the second part of the liquid phase (F_{K2}) from crystallization from step a) into the reactor for preparation of the raw product and supplementing it with sulphur and carbon disulphide with respect to aniline, e) final purification of the crystallized 2-mercaptobenzothiazole from step a) in the aniline liquid phase and separation of pure 2-mercaptobenzothiazole, f) using the third part of the liquid phase (F_{K3}) from crystallization from step a), supplemented with the liquid phase (F_R) from final purification from step e) and possibly with aniline for crystallization of a further batch of the 2-mercaptobenzothiazole raw product, g) using the liquid phase (F_R) from final purification from step f), together with a part of the liquid phase (F_{K3}) from step e), possibly with aniline, for crystallization of the 2-mercaptobenzothiazole raw product, wherein the steps a) to g) are repeated.

NO 2005/061471 A